

The opinion in support of the decision being entered today  
is *not* binding precedent of the Board

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* PATRICK N. SOLLEE

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Appeal 2007-1063  
Application 09/881,594<sup>1</sup>  
Technology Center 2100

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July 31, 2007

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*Before:* ALLEN R. MacDONALD, JEAN R. HOMERE, and MARC S.  
HOFF, *Administrative Patent Judges.*

HOFF, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF CASE

Appellant appeals under 35 U.S.C. § 134 from a final rejection of claims 1-6, 25, 26, 30, 31, 33-36, 38 and 39<sup>2</sup>. We have jurisdiction under 35 U.S.C. § 6(b).

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<sup>1</sup> Application filed June 14, 2001. The real party in interest is Nortel Networks Limited.

We affirm.

Appellant's invention relates to communication between a device protected by a firewall and network address translator (NAT), and another device located on the outside of the firewall and NAT. Because the firewall rejects unsolicited communications from outside devices, the invention contemplates that communication originates from the device protected by the firewall. A communications path is set up through the firewall, and so-called "keep-alive" messages are transmitted to maintain that communications path.

Claim 1 is exemplary:

1. A method for use in communications involving a first terminal that is coupled to one side of a firewall and network address translator, the method comprising:

sending, by the first terminal, a message identifying the first terminal to a node on another side of the firewall and network address translator;

receiving, by the first terminal, another message from the node, wherein the messages between the first terminal and the node causes creation of a path through the firewall and network address translator; and

repeatedly sending keep-alive messages to maintain the path through the firewall and network address translator.

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<sup>2</sup> Claims 7, 32 and 37 were canceled in the Reply Brief filed October 10, 2006.

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Thomas	US 2002/0184316 A1	Dec. 5, 2002
Roach	US 2002/0037723 A1	Mar. 28, 2002

Claims 1-4, 25, 26, 30, 31, 33-36, 38 and 39 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Thomas. Claims 5 and 6 stand rejected under 35 U.S.C. § 103(a) as being obvious over Thomas in view of Roach.

Appellant contends that the Examiner erred in that Thomas does not anticipate nor render obvious the claimed invention, because Thomas teaches repeatedly initiating communication, rather than maintaining an existing communication path. The Examiner argues that Thomas may fairly be read to meet the claims, because while Thomas may use different terminology, his invention performs the same functions claimed by Appellant.

Rather than repeat the arguments of Appellant or the Examiner, we make reference to the Briefs and the Answer for their respective details. Only those arguments actually made by Appellant have been considered in this decision. Arguments that Appellant could have made but chose not to make in the Briefs have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii) (2004).<sup>3</sup>

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<sup>3</sup> Appellant has not presented any substantive arguments directed separately to the patentability of the dependent claims or related claims in each group, except as will be noted in this opinion. In the absence of a separate argument with respect to those claims, they stand or fall with the

## ISSUE

The principal issue in the appeal before us is whether the Appellant has shown that the Examiner erred in holding that the repeated initiation of communication from a client behind a firewall to a server on the other side of the firewall may fairly be interpreted to equate to the maintenance of a communications path between the two devices.

## FINDINGS OF FACT

The following Findings of Fact (FF) are shown by a preponderance of the evidence.

### *The Invention*

1. Appellant invented a method of communicating with a device coupled to one side of a firewall and network address translator (NAT) (Specification 3:2-4).
2. Because a firewall rejects unsolicited communications from devices outside the firewall, the method contemplates that the first device, located behind the firewall, shall initiate communication with a node on the other side of the firewall. Upon receipt of a response from the node, a communications “path” through the firewall and NAT is created (Specification 7:24 – 8:2).
3. The communications path through the firewall and NAT is maintained by repeatedly sending keep-alive messages, such that the network address translation information regarding the first device and the

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representative independent claim. *See In re Young*, 927 F.2d 588, 590, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991). *See also* 37 C.F.R. § 41.37(c)(1)(vii).

node is retained and not deleted. In one embodiment of the invention, the first device, residing behind the firewall, sends the keep-alive messages through the firewall and NAT to the node (Specification 8:2-5).

*Thomas*

4. Thomas teaches repeated back-and-forth communication between a client located on one side of a firewall and NAT, and a server located on the other side (Para. [0014]).

5. Thomas teaches that, because a firewall rejects unsolicited communication from devices located outside, the client device is designated to initiate communication with the server (Para. [0014]).

6. Thomas teaches that the client sends an identifying message to a node on the other side of the firewall / NAT; receiving a response from the node, wherein the messages from the client and node cause creation of a path through the firewall / NAT; and conducting repeated further communication between the client behind the firewall and the node on the other side of the firewall (Para. [0038]).

7. Thomas further teaches that if a communications session is initiated by the MAPI client, a MAPI server will use the IP address in the packet header to communicate with that MAPI client for the duration of that session (Para. [0038]).

8. In Thomas, a communications session between the MAPI client and the MAPI server can be initiated by the MAPI client at a periodic interval, for example every thirty seconds, every minute, five minutes, ten minutes, or other appropriate period for that MAPI client and network (Para. [0039]).

9. Thomas suggests that an interval of thirty seconds or longer “appears to strike an appropriate balance between MAPI client and network bandwidth usage and apparent responsiveness of the MAPI client to the user” (Para. [0039]).

10. In Thomas, the user can enable or disable the communication initiator functionality by clicking on the check-box 34 that is labeled “Enable Firewall Keep-Alive.” If the check-box 34 is selected, the communication initiator functionality is enabled, and the user can set the time period 39 for periodically repeated communications session initiation. The user may select a shorter or longer interval at which the client initiates communication with the server, for example 30 seconds, one minute, five minutes, etc. (Para. [0051]).

11. Thomas does not disclose an upper or lower limit on the size of the communication interval.

*Roach*

12. Roach teaches a registration message comprising a Session Initiation Protocol (SIP) REGISTER message (Para. [0102]-[0105]).

13. Roach teaches that the SIP REGISTER request informs a proxy that a party is at a specific host on a network. The address bindings registered through SIP are periodically refreshed, and are eventually removed (Para. [0010]).

PRINCIPLES OF LAW

Anticipation is established when a single prior art reference discloses expressly or under the principles of inherency each and every limitation of the claimed invention. *Atlas Powder Co. v. IRECO Inc.*, 190 F.3d 1342,

1347, 51 USPQ2d 1943, 1946 (Fed. Cir. 1999); *In re Paulsen*, 30 F.3d 1475, 1478-79, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994).

In rejecting claims under 35 U.S.C. § 103, the Examiner bears the initial burden of establishing a prima facie case of obviousness. *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984). The Examiner can satisfy this burden by showing some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *KSR Int'l. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741, 82 USPQ2d 1385, 1396 (2007) (citing *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006)). Only if this initial burden is met does the burden of coming forward with evidence or argument shift to the Appellant. *Piasecki*, 745 F.2d at 1472, 223 USPQ at 788. Thus, the Examiner must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the Examiner's conclusion.

## ANALYSIS

### *Rejection under 35 U.S.C. § 102(e)*

Appellant asserts that Thomas fails to anticipate Appellant's claimed invention, because Thomas does not teach "repeatedly sending keep-alive messages to maintain the path through the firewall and network address translator." Appellant asserts that because the ordinary meaning of "maintain" is "to keep in an existing state" (Br. 4:10, citing Merriam-Webster Online Dictionary), Thomas cannot anticipate the claimed invention, because Thomas teaches repeatedly initiating communication

sessions between a Messaging Application Programming Interface (MAPI) client, located behind a firewall and NAT, and a MAPI server (Br. 4:13-15).

Like Appellant's invention, Thomas teaches a system and method for communication with a client located behind a firewall and network address translator (FF 4). Thomas teaches that the client sends an identifying message to a node on the other side of the firewall / NAT; receiving a response from the node, wherein the messages from the client and node cause creation of a path through the firewall / NAT; and conducting repeated further communication between the client behind the firewall and the node on the other side of the firewall (FF 6).

Because Thomas teaches communication between a client behind a firewall and NAT, and a node on the other side of the devices (FF 4), Thomas necessarily uses similar address translation methods, because of the presence of the known NAT (see FF 7). Thomas further teaches that this communication may be repeatedly "initiated" by invoking a function known as "Firewall Keep-Alive" (FF 10). In the system of Thomas, the user may select the desired interval between initiation of communication sessions (FF 8). "Initiation" of communication at sufficiently short intervals, i.e. shorter than the time-out in the NAT after which address translation information is deleted, results in a device in which communication is "maintained" just as Appellant argues. Subsequent communication "initiation" from the client would occur before the address information in the NAT expired (see FF 7), and thus the communications path through the firewall would never be dropped. Appellant has presented no evidence that the thirty second interval between sessions disclosed in Thomas (FF 10) is insufficient to "maintain"



the communications path through the firewall. As a result, Appellant has failed to carry his burden of establishing that the Examiner erred in interpreting the reference. We find that Thomas discloses all the limitations of the invention claimed in representative claims 1 and 25, and that the Examiner did not err in his rejection of claims 1-4, 25 and 26 under 35 U.S.C. § 102.

With regard to claims 30 and 35, Appellant argues that Thomas does not teach repeatedly sending the keep-alive messages to maintain the path through the firewall and network address translator ... for a duration of the registration of the first terminal” (Br. 7:7-9). We disagree, for the reasons held *supra*. Thomas may fairly be interpreted to teach that one may select an interval between communication sessions short enough that the path between client and server would never be dropped. The “initiation” messages then become the equivalent of “keep-alive” messages, which would be sent for the [indefinite] duration of the registration of the first terminal. We therefore find no error in the Examiner’s rejection of claims 30 and 35 under 35 U.S.C. § 102.

With regard to claims 33, 34, 38 and 39, Appellant argues that Thomas does not teach “causing a mapping table to be maintained by the firewall and network address translator” (Br. 8:16-17), because as noted *supra*, the repeated initiation of communication taught by Thomas does not correspond to the maintenance claimed by Appellant. For the reasons held above, we read Thomas to anticipate these claims as well. Thomas teaches that if a communications session is initiated by the MAPI client, a MAPI server will use the IP address in the packet header to communicate with that

MAPI client for the duration of that session (FF 7). Thomas may fairly be interpreted to teach that one may select an interval between communication sessions short enough that the path between client and server would never be dropped. We therefore find that the Examiner did not err in rejecting claims 33, 34, 38 and 39 under 35 U.S.C. § 102.

*Rejection under 35 U.S.C. § 103(a)*

With regard to claims 5 and 6, Appellant argues that the Examiner has not provided any objective evidence to support his conclusion that it would have been obvious to modify Thomas to include sending a Session Initiation Protocol (SIP) REGISTER message as taught by Roach (Br. 9:18-20).

Appellant further states that “Thomas relates to the initiation of communications sessions by a MAPI client with a MAPI server to enable the MAPI client to receive electronic mail, calendar items, and task items from the MAPI server” (Br. 9:20-22), and that “substituting the SIP messages into the system of Thomas would likely render Thomas inoperable for its intended purpose, since SIP generally is used for establishing ... telephony voice call sessions or multimedia call sessions” (Br. 10:10-13). We do not agree that Thomas’s intended purpose is so limited. Thomas discloses that “[i]n an embodiment of the invention, an extension to a client software application is provided that can enable use of the client with a server across a network that includes such a firewall or gateway” (FF 4; para. [0014]). One of Thomas’s embodiments does involve electronic mail, but Thomas is careful to state that the examples recited (electronic mail messages, calendar items, task items) are “without limitation” (para. [0018]). The Examiner stated that the skilled artisan “would have been motivated to [modify

Thomas in view of Roach] to initiate real time media data sessions” (Answer 7:18-20). Because Thomas is not limited to electronic mail communications, and contains no teaching excluding telephonic or multimedia communication, we find that the Examiner did not err in rejecting claims 5 and 6 under 35 U.S.C. § 103(a).

*Other Issues*

Should there be further prosecution of this application, we bring the following references to the attention of Appellant and the Examiner:

Dingman	US 2004/0024879 A1	Feb. 5, 2004
Oren	US 2003/0145093 A1	Jul. 31, 2003
Stephenson	US 2002/0023143 A1	Feb. 21, 2002

Dingman teaches transmitting a message, e.g., every 30 seconds to keep the path in the firewall/NAT open in case a user agent is behind a NAT/firewall (para. [0115]). Oren teaches maintaining a connection by having a client module send a keep-alive message every few hundred seconds (para. [0062]). Stephenson teaches sending a keep-alive message to maintain a connection through a firewall (para. [0108]).

Although Dingman is not prior art to Appellant, the reference can be used as evidence to confirm what the Thomas patent would teach to one of ordinary skill in the art.

CONCLUSION OF LAW

We conclude that Appellant has not shown that the Examiner erred in rejecting claims 1-6, 25, 26, 30, 31, 33-36, 38 and 39. Claims 1-6, 25, 26, 30, 31, 33-36, 38 and 39 are not patentable.

DECISION

The Examiner's rejection of claims 1-6, 25, 26, 30, 31, 33-36, 38 and 39 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

gw

TROP PRUNER & HU, PC  
1616 S. VOSS ROAD, SUITE 750  
HOUSTON, TX 77057-2631